

REMARKS

Claims 1-22 are currently pending in this application. Reconsideration is respectfully requested in light of the following remarks.

The Examiner rejected claims 1-7 and 10-22 under 35 U.S.C §103(a) as being unpatentable over U.S. Patent Publication 2003/0204212 to Burnes et al. Applicants respectfully traverse this rejection.

Applicants' claimed invention as recited in independent claims 1, 15, 19 and 22 is directed towards a method and corresponding apparatus for determining displacement of an electrode. For example independent claim 1 recites a method comprised in part by delivering an electrical signal to a first position using a first electrode located in or adjacent to a first cardiac chamber... sensing a potential generated by the delivered electrical signal using a second electrode located at a second position in or adjacent to a second cardiac chamber and determining an inter-electrode spacing between the first electrode and the second electrode based, at least in part, on the sensed potential. (Underlining added for emphasis only). Applicants respectfully submit that Burnes et al. do not disclose or suggest the recited claim elements.

Rather, Burnes et al. disclose a method and device that utilize impedance to determine AV and VV pacing intervals that optimize cardiac output. For example, in FIG. 2B and the accompanying description in paragraph [0051] pointed to by the Examiner Burnes et al. disclose a diagrammatic sketch of an arrangement for detecting a left ventricular impedance change. More specifically, Burnes et al. provide a constant current across an electrode in the right atrium and an electrode in the right ventricular. The system of Burnes et al. further includes impedance sensors in the left atrium and the left ventricle that provide signals representative of impedance changes therebetween in response to the delivered current. Thus, in the sections pointed to by the Examiner the system of Burnes et al. deliver a current across a first set of electrodes and measure impedance across a second set of electrodes.

Burnes et al. do not therefore disclose or in any way suggest delivering an electrical signal using a first electrode located in or adjacent to a first cardiac chamber...

and sensing a potential generated by the delivered electrical signal using a second electrode located at a second position in or adjacent to a second cardiac chamber and determining an inter-electrode spacing between the first electrode and the second electrode based, at least in part, on the sensed potential as recited in the claimed invention. Rather, Burnes et al. measure impedance between a second set of electrodes which are completely different than the electrodes used to deliver the constant current.

Moreover, Burnes et al. provide no teaching as to how to determine the inter-electrode spacing as a function of sensed potential. Rather, as noted by the Examiner Burnes et al. simply discloses that impedance values are affected by the distance between the electrodes. Burnes et al. do not however, disclose or suggest how to determine the inter-electrode spacing as a function of the change in impedance.

Accordingly, Applicants respectfully submit that claims 1, 15, 19 and 22 are novel and non-obvious over Burnes et al. and are allowable. Applicants further submit that claims 2-7 and 10-14, claims 16-18, and claims 20-21 that depend from claims 1, 15 and 19 respectively are allowable as are claims 1, 15 and 19 and for additional limitations recited therein.

The Examiner rejected claims 8 and 9 under 35 U.S.C §103(a) as being unpatentable over Burnes et al. in view of U.S. 4,173,230 to Digby. Applicants respectfully traverse these rejections.

In view of the foregoing analysis of independent claim 1 over Burnes et al., Applicants believe that the rejection of dependent claims 8 and 9 under §103 is rendered moot as claims 8 and 9 depend from allowable independent claim 1. Applicant, therefore, requests withdrawal of the rejection of claims 8 and 9 under 35 U.S.C. § 103(a).

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In light of the above remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

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Date

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